

**Claim 1 (Amended).** Porous membranes of (per)fluorinated amorphous polymers having a porosity in the range 5 - 500 nm, determined by an atomic force electronic microscope, wherein 80% - 90% of the pores have a size ranging from minus 5 nm to plus 5 nm of the value of the distribution maximum peak.

**Claim 3 (Amended).** Porous membranes of (per)fluorinated amorphous polymers according to claim 1, the (per)fluorinated polymers selected from the group consisting of:

A) polymers of one or more monomers having structure (II):



wherein:  $\text{Y}_1$  and  $\text{Y}_2$  are selected from F, Cl,  $\text{CF}_3$ ,  $\text{OR}_f$

wherein  $\text{R}_f$  is a  $\text{C}_1$  -  $\text{C}_5$  perfluoroalkyl radical;

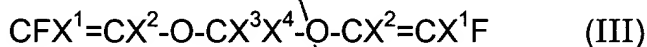
with one or more comonomers having the following structures:



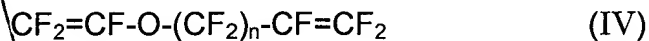
wherein: Z is selected from F,  $\text{R}_f$ ,  $\text{OR}_f$ ;  $\text{R}_f$  is a perfluoroalkyl

radical  $\text{C}_1$  -  $\text{C}_5$ ;  $\text{X}_1$  and  $\text{X}_2$  are selected from F and  $\text{CF}_3$ ;

bisvinylmethanes having structure (III):



wherein  $X^1$  and  $X^2$ , equal to or different from each other, are F, Cl;  $X^3$  and  $X^4$ , equal to or different from each other, are F or  $CF_3$ ;  
dienes having structure (IV);



wherein  $n = 1 - 5$ ;

or

- B) homopolymers of monomers having structure (I) or (III) or (IV);
- C) copolymers of monomers having structure (I) or (III) or (IV).

**Claim 5 (Amended).** Porous membranes of (per)fluorinated amorphous polymers according to claim 3, wherein the dioxole percentage having structure (I) is in the range 40%-90% by moles.

**Claim 7 (Amended).** Porous membranes of (per)fluorinated amorphous polymers according to claim 3, wherein the monomers having structure (II) are selected from tetrafluoroethylene, perfluoroalkylvinylethers ( $C_1-C_5$ ), hexafluoropropene, chlorotrifluoroethylene.

**Claim 16 (Amended).** A ultrafiltration or nanofiltration separation process wherein a solution containing a solute is contacted with the porous membrane of claim 1.


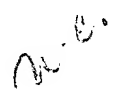
Please add new claims 17-23 as follows.

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**Claim 17 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 1 having a porosity in the range 20-100 nm.

✓ **Claim 18 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 3, wherein Z is  $OR_f$ .

✓ **Claim 19 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 3, wherein  $X^1$  and  $X^2$ , equal to or different from each other, are F.

 **Claim 20 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 3, the dienes having structure (IV) wherein  $n = 1 - 2$ . 

**Claim 21 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 5, wherein the dioxole percentage having structure (I) is in the range 50% - 85% by moles.

✓ **Claim 22 (New).** Porous membranes of (per)fluorinated amorphous polymers according to claim 7, wherein the monomers having structure (II) are tetrafluoroethylene.

✓ **Claim 23. (New).** A method for purifying a fluid containing gas impurities by contacting said fluid with the membranes of claim 1.

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